PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-262591
(43)Date of publication of application : 26.09.2000

(51)Int.Cl. A61J 1/20
A61J 1/05
A61J 1/10
B65D 17/34
B65D 17/347
B65D 17/353

(21)Application number : 11-069315
(22)Date of filing : 15.03.1999

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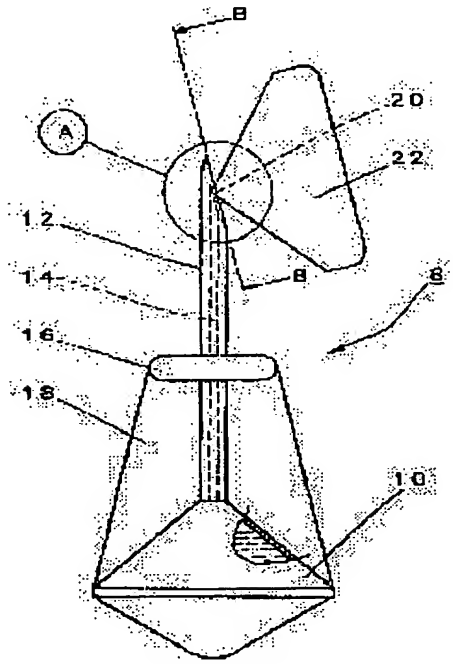
(54) LIQUID CONTAINER

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a liquid container which enables injecting and blending of a liquid such as medical fluid into an infusion container and a side pipe of a dripping path during the dosing of an infusion along with easier discarding disposal by incineration or the like after use.
SOLUTION: A needle-shaped tube part 12 having a passageway 14 through which a medical fluid passes is protruded from the body part 10 of a container while the tip part of the needle-shaped tube part 12 is made sharp while the tip part of the passageway 14 of the needle-shaped tube part 12 is closed by a thin part 20. Moreover, the thin part 20 is broken by a grip piece 22 provided at the thin part 20 to unseal the passageway 14 and the body part 10 of the container is pressed by a finger so that the medical fluid flowing out of the passageway 14 of the needle-shaped tube part 12 can be injected into an object such as an infuston container or a dripping path while being integrally built up of a resin.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] When it comes to form in one the piece of grasping which can grasp a configuration with a point acute [said needlelike tube part] with a finger to a thin-walled part while the point of nothing and said circulation way is blockaded by the thin-walled part and it moves the piece of grasping in the liquid container with which the needlelike tube part which has the circulation way which can circulate contents liquid was projected, it is the liquid container carried out [that said thin-walled part is damaged and the circulation way might be made to have opened and] as the description.
[Claim 2] The liquid container which constituted the liquid container itself from plastics in one in the liquid container according to claim 1.
[Claim 3] The liquid container whose liquid held in claim 1 or a liquid container according to claim 2 is a drug solution.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the liquid container which improved especially the point of a needlelike tube part about the liquid container with which the needlelike tube part for pouring contents liquid into others was projected. This invention is effective, especially if it is used when other drug solutions are injected in mix for example, at the time of infusion solution administration.
[0002]
[Description of the Prior Art] Although other drugs, for example, a vitamin compound, trace element pharmaceutical preparation, heparin, etc. are blended with an infusion solution and it is medicated in many cases, when not made to a product [finishing / combination] in the reason of deteriorating during after [combination] storage, the pharmaceutical preparation according to individual is taken out with a syringe etc. each time, and usually pours in and blends this from the by-pass of an infusion solution container or an intravenous drip path. However, since a complicated top also has many opportunities of contamination as for the above-mentioned actuation, it is the purpose which simplifies mixed injection actuation, and the drug solution container which the drug solution prescribed a medicine for the patient held in the container equipped with the impregnation sections, such as a needle, once beforehand is proposed variously. There are what was indicated as such a drug solution container in Figs. 1 - 4 of JP,61-2380,B other than the so-called prefilled syringe which held the drug solution into the syringe, for example, a thing indicated by JP,8-299437,A.
[0003]
[Problem(s) to be Solved by the Invention] However, the above Although the thing of a prefilled syringe or a type given in JP,61-2380,B is good for medicating the body directly since it is equipped with the metal needle, it has a trouble in respect of abandonment. A thing given in JP,8-299437,A has the trouble that an application will be limited by forming the whole with plastics since it is the configuration which suits only the by-pass (lure connector) of an intravenous drip path, although it is advantageous at the point in which incineration disposal is possible. This invention is made against the background of such a situation, and in case the purpose of this invention blends liquids, such as other drug solutions, with liquids, such as an infusion solution, it is offering the liquid container which enabled it to pour liquids, such as a drug solution, into the by-pass of containers, such as an infusion solution container, or an intravenous drip path, and the liquid container in which incineration disposal is possible.
[0004]
[Means for Solving the Problem] This invention made in order to attain such a purpose is constituted as follows.
A When it comes to form in one the piece of grasping which can grasp a configuration with a point acute [said needlelike tube part] with a finger to a thin-walled part while the point of nothing and said circulation way is blockaded by the thin-walled part and it moves the piece of grasping in the liquid container with which the needlelike tube part which has the circulation way which can circulate contents liquid was projected, it is the liquid container carried out [that said thin-walled part is damaged and the circulation way might be made to have opened and] as the description.
B It is the liquid container which constituted the liquid container itself from plastics in one in the liquid container given [said] in A term.
C The liquid container whose liquid held in a liquid container said A term or given in B term is a drug solution.
[0005]
[Embodiment of the Invention] The gestalt of implementation of invention is explained to a detail based on the drawing which indicated the example of this invention below. Drawing 1 R> 1 - drawing 2 are expanding and illustrating the drug solution container of an example. In this drawing, 8 is a drug solution container as a liquid container, and is constituted from plastics by one. The needlelike tube parts 12 are formed successively at the upper limit side of the body section 10 of a container which holds a drug solution, and the infusion solution container, the by-pass of an intravenous drip path, etc. enable it to pour in a drug solution through the circulation way 14 of the needlelike tube part 12 interior. Between the Toride sections 16 and the body sections 10 of a container which were formed in the pars intermedia of the needlelike tube part 12, the reinforcing rib 18 with thin meat is formed in the object location of the both sides of the needlelike tube part 12 at one. The point of the needlelike tube part 12 makes a configuration which was cut off so that an acute angle might be made, and the latest part of the is making the acute triangular pyramid-like configuration, as especially shown in drawing 3 (b). As shown in drawing 3 (b), a thin-walled part 20 is formed in the point of the circulation way 14 in the needlelike tube part 12, and the circulation way 14 is blockaded. And cross sections as the sheet metal-like piece 22 of grasping shows to drawing 3 R>3 (b) are formed successively by one by part for the point of a circle configuration, a thin-walled part 20 is damaged in the outside of a thin-walled part 20, and it enables it to open the circulation way 14 by twisting the piece 22 of grasping or moving right and left, aslant [the upper and lower sides, aslant], etc. In addition, although a drug solution container is filled up with a drug solution at the time of manufacture, it is made for the body section 10 of a container to have contents liquid discharged by crushing with a finger. Manufacture of a drug solution

container can often be carried out by the aseptic condition by the so-called blow philharmonic seal method for performing shaping of a container, restoration of a drug solution, and **** continuously.

[0006] The drug solution container of the example constituted as mentioned above Since a thin-walled part 20 will be damaged and the circulation way 14 will be opened if gather the piece 22 of grasping at needlelike tube part 12 tip with a finger, and it is twisted or is moved the upper and lower sides, right and left, aslant, etc. The needlelike tube part 12 is inserted in an infusion solution container, the by-pass of an intravenous drip circuit, etc., and ** and contents liquid (drug solution) flow out in an infusion solution container and said by-pass, and are blended with an infusion solution etc. so that the body section 10 of a container may be gathered and forced by the digiti manus etc. It is convenient, if the thumb is hung on the pars basilaris ossis occipitalis of the body section 10 of a container and other fingers are hung on the Toride section 16, in case contents liquid is made to flow out. Thus, if it blends beforehand, it can blend easily at every use of a drug solution with a possibility of deteriorating. Constituting so that a circulation way tip may be opened, while preparing the crease which inclined beforehand in the needlelike tube part as other means to open the circulation way 14, breaking from the part at the time of use and forming the needle point idea ** Compare with such a means, and in this example, beforehand, since the point of the needlelike tube part 12 is formed sharp nothing, an acute configuration The sharpness at the time of use is good, and there is an advantage that use is easy that it tends to open the thin-walled part 20 which made thickness thin since especially opening of the circulation way 14 is made to be broken by the piece 22 of grasping. Furthermore, since the drug solution container of this example consists of plastics, it has the advantage that the incineration disposal after use is easy.

[0007] The plastics with which the drug solution container was admitted as a medical-application container like this conventional seed container is used. Especially polyolefines, such as polyethylene and polypropylene, are desirable at that the moldability is excellent and the point which safety has established. In addition to the homopolymer of ethylene, as the above-mentioned polyethylene, a copolymer with alpha olefins, such as a propylene, 1-butene, 4-methyl-1-pentene, and octene, is also usable. Moreover, this copolymer may be a straight chain-like, or may be branched-chain, or any are sufficient as it. Polyethylene does not ask whether it is high-density or it is a low consistency, but can choose it from the large range suitably. Moreover, as the above-mentioned polypropylene, a copolymer with the olefin of small quantity (generally 10 or less % of the weight, preferably 5 or less % of the weight), such as a homopolymer or ethylene, and 1-butene, is available, and it is suitable to use the thing of the grade currently used widely as a medical-application container. Furthermore, styrene system copolymers, such as annular olefin copolymers, such as an ethylene tetracyclo dodecen copolymer, and a styrene ethylene butylene styrene block copolymer, are also employable as polyolefines, such as poly1 butene and poly4 methyl 1 pentene, and a pan suitably. The above-mentioned polyolefine may be used independently or may be used as mixed resin or multilayer molding. If needed, protection-from-light nature can be given or aluminum and silica vacuum evaporationo processing can also be performed.

[0008] It is not limited especially as drugs held in a drug solution container. For example, in addition to solutions, such as a physiological salt solution and distilled water, vitamin liquid, trace element pharmaceutical preparation liquid, lipid microsphere liquid, the calcium chloride solution for amendment, etc., the liquid of drugs, such as hormone drugs, such as peptic ulcer agents, such as cardiotonic, such as alleviation-of-fever painkilling antiphlogistics, such as sedative, such as the whole body, such as anticoagulants, such as heparin sodium liquid, pentobarbital, and procaine hydrochloride, or local anesthetic, and a calcium bromide, and sodium salicylate, and dopamine hydrochloride, and nicardipine hydrochloride, and hydrocortisone sodium phosphate, can be illustrated.

[0009] The body section of a container of the above-mentioned example is not limited to the thing of the configuration shown in drawing 1 and drawing 2 , but if contents liquid can be discharged by crushing with a finger, it can adopt various configurations and structure. The point of a needlelike tube part can also be made not only into the shape of a triangular pyramid as shown in drawing 3 (b) but into other sharp configurations. Moreover, it is also possible for the configuration of the piece of grasping not to be limited to what is shown in drawing 1 and drawing 2 , but to consider as various configurations. What is necessary is just the configuration and structure where the force is applied to a thin-walled part and it can break in short. Furthermore, the container of this example is not limited to a drug solution, but also when holding other liquids blended at the time of use, it can be used. For example, it is usable when holding the adhesives of 2 acidity or alkalinity blended at the time of use. Although the example of this invention was explained above, as for this invention, it is needless to say that it can carry out in the mode which becomes various in the range which is not limited to such an example at all and does not deviate from the summary of this invention.

[0010]

[Effect of the Invention] Since this invention is constituted as mentioned above, the effectiveness indicated below is done so. According to this invention, since a liquid container can be constituted from plastics in one, the so-called adoption of the blow philharmonic seal method for performing shaping of a container, restoration of a drug solution, and **** continuously is possible, and the above-mentioned activity can be well done by the aseptic condition by this. Moreover, since the metal is not used, the disposal by the incineration after use is easy. Furthermore, it is possible to pour into the by-pass of an infusion solution container or an intravenous drip path the drug solution made to flow out of a needlelike tube part, and to blend a drug solution at the time of infusion solution administration. Moreover, since the piece of grasping is moved and he is trying to break the thin-walled part to which opening of a circulation way made thickness thin, use is [that it is easy to open] easy [since the point of a needlelike tube part is beforehand formed sharp nothing in the acute configuration, its sharpness at the time of use is good, and].

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the expansion front view which fractured the part which shows one example of this invention.
[Drawing 2] It is the expansion right side view of this example.
[Drawing 3] (b) and (b) are the expanded sectional views and B-B expanded sectional views of the A section in drawing 1 .

[Description of Notations]
8 Drug Solution Container (Liquid Container)
10 Body Section of Container
12 Needlelike Tube Part
14 Circulation Way
20 Thin-walled Part
22 Piece of Grasping

[Translation done.]

(19)日本国特許庁（ＪＰ）　(12)公開特許公報（Ａ）　(11)特許出願公開番号
特開2000－262591
（P2000－262591A）
(43)公開日　平成12年９月26日(2000.9.26)

(51)Int.Cl.'	識別記号	ＦＩ		テーマコード'（参考）
Ａ６１Ｊ　1/20		Ａ６１Ｊ　3/00	３１４Ｂ	３Ｅ０９３
1/05		1/00	３１３Ｍ	
1/10			３３５Ｃ	
Ｂ６５Ｄ　17/34		Ｂ６５Ｄ　17/34		
17/347				

審査請求　未請求　請求項の数３　ＯＬ　（全　５　頁）　最終頁に続く

(21)出願番号　特願平11－69315

(22)出願日　平成11年３月15日(1999.3.15)

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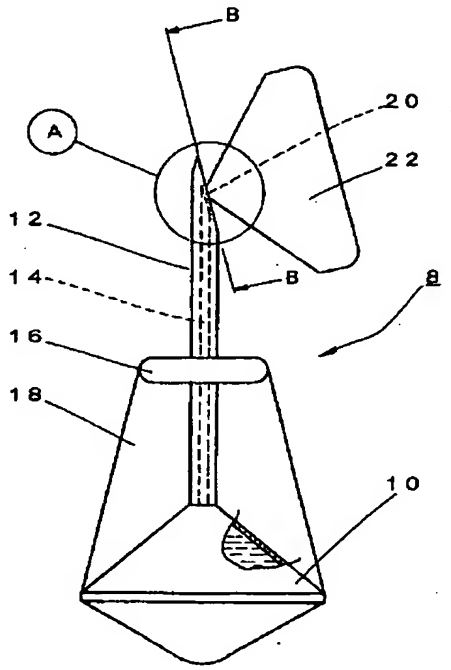
(54)【発明の名称】　液体容器

(57)【要約】
【課題】　使用後の焼却等による廃棄処分が容易で、輸液投与時に輸液容器や点滴経路の側管に薬液等の液体を注入して配合することが可能な液体容器を提供する。
【解決手段】　薬液等が流通し得る流通路１４を有する針状管部１２を容器本体部１０から突出させると共に、針状管部１２の先端部は先鋭な形状とし、かつ針状管部１２の流通路１４先端部は薄肉部２０によって閉塞され、しかも薄肉部２０に設けた把持片２２で薄肉部２０を破損して流通路１４を開封し、容器本体部１０を指で押し付けて針状管部１２の流通路１４から流出した薬液等を輸液容器や点滴経路等の対象物に注入し得るようにし、かつプラスチックで一体に構成し得るようにした。



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【特許請求の範囲】
【請求項１】　内容液の流通可能な流通路を有する針状管部が突出された液体容器において、前記針状管部は先端部が先鋭な形状をなし、かつ前記流通路の先端部は薄肉部によって閉塞されると共に薄肉部には指で把持し得る把持片が一体に形成されてなり、把持片を動かすことによって前記薄肉部を破損し、流通路を開封させ得るようにしたことを特徴とする液体容器。
【請求項２】　請求項１記載の液体容器において、液体容器自体をプラスチックで一体に構成するようにした液体容器。
【請求項３】　請求項１もしくは請求項２記載の液体容器において、収容される液体が薬液である液体容器。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は内容液を他に注入するための針状管部が突出された液体容器に関するものであり、特に針状管部の先端部を改良した液体容器に関するものである。本発明は、例えば輸液投与時に他の薬液の混注する場合に使用すれば特に有効である。
【０００２】
【従来の技術】輸液に他の薬剤、例えばビタミン剤や微量元素製剤、ヘパリン等を配合して投与されることが多いが、配合後保管中に変質する等の理由で配合済みの製品にできない場合には、個別の製剤をその都度注射器等で取り出し、これを輸液容器や点滴経路の側管より注入して配合するのが通例である。しかし、上記操作は、煩雑な上に汚染の機会も多いので、混注操作を簡素化する目的で、針等の注入部を備えた容器に予め一回投与分の薬液の収容するようにした薬液容器が種々提案されている。そのような薬液容器としては、例えば薬液を注射器の中に収容したいわゆるプレフィルドシリンジの他に、特公昭６１－２３８０号公報の第１図～第４図に記載されたものや、特開平８－２９９４３７号公報に記載されたもの等がある。
【０００３】
【発明が解決しようとする課題】ところが、上記 プレフィルドシリンジや特公昭６１－２３８０号公報記載のタイプのものは、金属針を備えているので、人体に直接投与するにはよいが、廃棄の点で問題点がある。特開平８－２９９４３７号公報記載のものは、全体がプラスチックで形成されており、焼却処分が可能な点で有利であるが、点滴経路の側管（ルアーコネクター）にしか適合しない形状なので、用途が限定されてしまうという問題点がある。本発明はこのような事情を背景としてなされたものであり、本発明の目的は、輸液等の液体に他の薬液等の液体を配合する際、輸液容器等の容器や点滴経路の側管に薬液等の液体を注入できるようにした液体容器と、焼却処分が可能な液体容器を提供することである。
【０００４】

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【課題を解決するための手段】このような目的を達成するためになされた本発明は、次のように構成される。
Ａ　内容液の流通可能な流通路を有する針状管部が突出された液体容器において、前記針状管部は先端部が先鋭な形状をなし、かつ前記流通路の先端部は薄肉部によって閉塞されると共に薄肉部には指で把持し得る把持片が一体に形成されてなり、把持片を動かすことによって前記薄肉部を破損し、流通路を開封させ得るようにしたことを特徴とする液体容器。
Ｂ　前記Ａ項記載の液体容器において、液体容器自体はプラスチックで一体に構成するようにした液体容器。
Ｃ　前記Ａ項もしくはＢ項記載の液体容器において、収容される液体が薬液である液体容器。
【０００５】
【発明の実施の形態】以下本発明の実施例を記載した図面に基づいて、発明の実施の形態を詳細に説明する。図１～図２は実施例の薬液容器を拡大して図示している。同図において８は液体容器としての薬液容器であり、プラスチックで一体に構成されている。薬液を収容する容器本体部１０の上端側には針状管部１２が連設され、針状管部１２内部の流通路１４を介して輸液容器や点滴経路の側管等に薬液を注入できるようにされている。針状管部１２の中間部に形成された取手部１６と容器本体部１０との間には針状管部１２の両側の対象位置に肉の薄い補強リブ１８が一体に設けられている。針状管部１２の先端部は鋭角をなすように切り取られたような形状をなし、特にその最先端部分は図３（ロ）に示すように三角錐状の先鋭な形状をなしている。針状管部１２内の流通路１４の先端部には、図３（イ）に示すように薄肉部２０が形成され、流通路１４が閉塞されている。そして、薄肉部２０の外側には、薄板状の把持片２２が、図３（ロ）に示すような断面が円形状の先端部分で一体に連設され、把持片２２をねじったり、左右や上下あるいは斜め等に動かすことによって薄肉部２０を破損し、流通路１４を開封できるようにされている。なお、薬液容器には、製造時薬液が充填されるが、容器本体部１０は指で押しつぶすことにより内容液を排出できるようにされている。薬液容器の製造は、容器の成形、薬液の充填、溶閉を連続的に行う、いわゆるブローフィルシール法によって無菌状態で能率よく行うことが可能である。
【０００６】以上のように構成された実施例の薬液容器は、針状管部１２先端の把持片２２を指で摘みねじったり、上下や左右や斜め等に動かしたりすると薄肉部２０が破損し、流通路１４が開封されるので、針状管部１２を輸液容器や点滴回路の側管等に差し込み、容器本体部１０を手の指等で摘み押しつけるようにすと、内容液（薬液）は輸液容器内や前記側管内に流出し、輸液等と配合される。内容液を流出させる際親指を容器本体部１０の底部に掛け、他の指を取手部１６に掛けるようにすると好都合である。このように、予め配合しておくと変

質するおそれのある薬液を使用の都度簡単に配合することができる。流通路１４を開封する他の手段として、針状管部に予め傾斜した折れ目を設けておき、使用時にその部分から折り取って針先を形成すると共に流通路先端を開封するように構成することも考えらるが、このような手段に比し、本実施例では針状管部１２の先端部は予め先鋭な形状をなし鋭利に形成されているので、使用時の切れ味がよく、また流通路１４の開封は特に肉厚を薄くした薄肉部２０を把持片２２で破るようにされているので、開封し易く使用が容易であるという利点がある。さらに、本実施例の薬液容器はプラスチックで構成されているので、使用後の焼却処分が容易であるという利点がある。

【０００７】薬液容器は、従来のこの種容器と同様に医療用容器として容認されたプラスチックが用いられる。特に、ポリエチレン、ポリプロピレン等のポリオレフィンは、成形性が優れていることと安全性が確立している点で好ましい。上記ポリエチレンとしては、エチレンのホモポリマーに加え、プロピレン、１－ブテン、４－メチル－１－ペンテン、オクテン等のα－オレフィンとの共重合体も使用可能である。また、該共重合体は直鎖状であっても分岐鎖状であってもいずれでもよい。ポリエチレンは、高密度であるか低密度であるかを問わず、広い範囲より適宜選択できる。また、上記ポリプロピレンとしては、ホモポリマーあるいはエチレン、１－ブテン等の少量（一般に１０重量%以下、好ましくは５重量%以下）のオレフィンとの共重合体が利用可能で、医療用容器として汎用されているグレードのものを用いるのが好適である。さらに、ポリ１－ブテンやポリ４－メチル－１－ペンテン等のポリオレフィン、さらにはエチレン・テトラシクロドデセンコポリマー等の環状オレフィンコポリマーやスチレン・エチレン・ブチレン・スチレンブロックコポリマー等のスチレン系コポリマーも適宜採用可能である。上記ポリオレフィンは、単独で用いても混合樹脂または多層成型として用いてもよい。必要に応じて、遮光性を付与したり、アルミやシリカ蒸着加工を施すこともできる。

【０００８】薬液容器内に収容する薬剤としては、特に限定されない。例えば、生理的食塩液、蒸留水等の溶解液、ビタミン液、微量元素製剤液、脂肪乳剤液、補正用塩化カルシウム液等に加え、ヘパリンナトリウム液等の血液凝固阻止剤、ベントバルビタール、塩酸ブロカイン等の全身または局所麻酔剤、臭化カルシウム等の鎮静剤、サリチル酸ナトリウム等の解熱鎮痛消炎剤、塩酸ドパミン等の強心剤、塩酸ニカルジピン等の消化性潰瘍

剤、リン酸ヒドロコルチゾンナトリウム等のホルモン剤等の薬剤の液を例示できる。

【０００９】上記実施例の容器本体部は図１、図２に示す形状のものに限定されず、指で押し潰すことにより内容液を排出できるものであれば種々の形状、構造を採用できる。針状管部の先端部は図３（ロ）に示すような三角錐状に限らず、鋭利な他の形状とすることもできる。また、把持片の形状は図１，図２に示すものに限定されず、種々の形状とすることも可能である。要するに、薄肉部に力を加えて破り得る形状や構造ならばよい。さらに、本実施例の容器は、薬液に限定されず、使用時配合する他の液体を収容する場合にも使用できる。例えば、使用時配合する２液性の接着剤を収容する場合等にも使用可能である。以上本発明の実施例について説明したが、本発明はこのような実施例に何ら限定されるものではなく、本発明の要旨を逸脱しない範囲において種々なる態様で実施し得ることはもちろんである。

【００１０】

【発明の効果】本発明は上述のように構成されているので、次に記載する効果を奏する。本発明によれば、液体容器はプラスチックで一体に構成することができるので、容器の成形、薬液の充填、溶閉を連続的に行う、いわゆるブローフィルシール法の採用が可能であり、これによって上記作業を無菌状態で能率よく行うことができる。また、金属を使用していないので、使用後焼却による廃棄処分が容易である。さらに、針状管部から流出させた薬液を輸液容器や点滴経路の側管に注入し、輸液投与時に薬液を配合することが可能である。また、針状管部の先端部は予め先鋭な形状をなし鋭利に形成されているので、使用時の切れ味がよく、また流通路の開封は肉厚を薄くした薄肉部を把持片を動かして破るようにされているので、開封し易く使用が容易である。

【図面の簡単な説明】

【図１】本発明の一実施例を示す一部を破断した拡大正面図である。

【図２】同実施例の拡大右側面図である。

【図３】　　（イ）、（ロ）は図１におけるＡ部の拡大断面図とＢ－Ｂ拡大断面図である。

【符号の説明】

８　薬液容器（液体容器）

１０　容器本体部

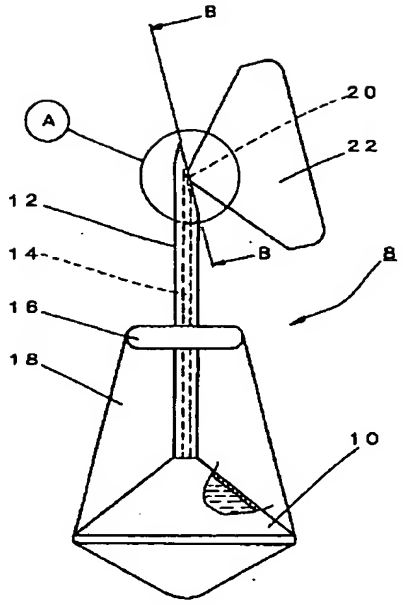
１２　針状管部

１４　流通路

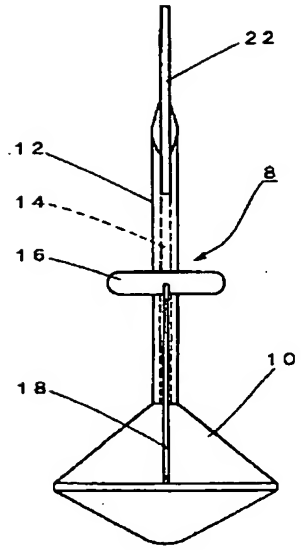
２０　薄肉部

２２　把持片

【図１】

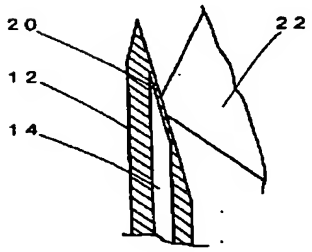


【図２】

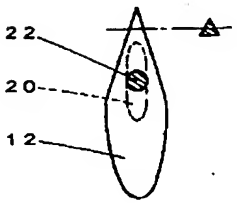


【図３】

(イ)



(ロ)



フロントページの続き

(51)Int.Cl.'	識別記号	F I	ﾃｰﾏｺｰﾄﾞ(参考)
Ｂ６５Ｄ 17/353			

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Ｆターム(参考) 3E093 AA30 BB13 CC10 DD09